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<211> 1725
<212> DNA
<213> Homo sapiens

<400> 5
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accccggccc tgcatagcag cccggcacag ccgccggcgg agacagctaa cgggacctca 180
gaacagcatg tccggattcg agtcatcaag aagaaaaagg tcattatgaa gaagcggaag 240
aagctaactc taactcgccc caccccactg gtgactgccg ggccccttgt gaccccact 300
ccagcaggga ccctcgaccc cgctgagaaa caagaaacag gctgtcctcc tttgggtctg 360
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ggaccacacc gaggacggct caacattcag tcaggcctgg aggacggcga tctatatgat 480
ggagcctggt gtgctgagga gcaggacgcc gatccatggt ttcaggtgga cgctgggcac 540
cccacccgct tctcgggtgt tatcacacag ggcaggaact ctgtctggag gtatgactgg 600
gtcacatcat acaaggtcca gttcagcaat gacagtcgga cctggtgggg aagtaggaac 660
cacagcagtg ggatggacgc agtatttcct gccaattcag acccagaaac tccagtgctg 720
aacctcctgc cggagcccca ggtggcccgc ttcattcgcc tgctgcccca gacctggctc 780
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gtgacacgga actgtcgggt cacctttgaa gagggcccct tccctgcaa tttcgtgctc 1620
accaagactc ccaaacagag gctgcgcgag ctgctggcag ctggggccaa ggtgcccccg 1680
gaccttcgca ggcgcctgga gcggctaagg ggacagaagg attga 1725

<210> 6
<211> 574
<212> PRT
<213> Homo sapiens

<400> 6
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Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
             20   25   30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
         35   40   45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
     50   55   60

Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys
 65   70   75   80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
                 85   90   95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
                100   105   110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
             115   120   125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
     130   135   140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
145   150   155   160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
                 165   170   175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
             180   185   190

16

```
Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe
        195                 200                 205

Ser Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly
        210                 215                 220

Met Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu
225                 230                 235                 240

Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro
                245                 250                 255

Gln Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu
                260                 265                 270

Ala Cys Pro Val Ser Asp Pro Asn Asp Leu Phe Leu Glu Ala Pro Ala
        275                 280                 285

Ser Gly Ser Ser Asp Pro Leu Asp Phe Gln His His Asn Tyr Lys Ala
        290                 295                 300

Met Arg Lys Leu Met Lys Gln Val Gln Glu Gln Cys Pro Asn Ile Thr
305                 310                 315                 320

Arg Ile Tyr Ser Ile Gly Lys Ser Tyr Gln Gly Leu Lys Leu Tyr Val
                325                 330                 335

Met Glu Met Ser Asp Lys Pro Gly Glu His Glu Leu Gly Glu Pro Glu
                340                 345                 350

Val Arg Tyr Val Ala Gly Met His Gly Asn Glu Ala Leu Gly Arg Glu
                355                 360                 365

Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His Glu Phe Leu Arg Gly
        370                 375                 380

Asn Pro Arg Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu
385                 390                 395                 400

Pro Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser
                405                 410                 415

Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Asn Asn Gln Ser Ile Asp
                420                 425                 430

Leu Asn His Asn Phe Ala Asp Leu Asn Thr Pro Leu Trp Glu Ala Gln
        435                 440                 445
```

17

```
Asp Asp Gly Lys Val Pro His Ile Val Pro Asn His His Leu Pro Leu
    450                 455                 460

Pro Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val Ala Pro Glu Thr Arg
465                 470                 475                 480

Ala Val Ile Lys Trp Met Lys Arg Ile Pro Phe Val Leu Ser Ala Asn
                485                 490                 495

Leu His Gly Gly Glu Leu Val Val Ser Tyr Pro Phe Asp Met Val Thr
                500                 505                 510

Ala Ser Ala Glu Gly Tyr His Ser Val Thr Arg Asn Cys Arg Val Thr
    515                 520                 525

Phe Glu Glu Gly Pro Phe Pro Cys Asn Phe Val Leu Thr Lys Thr Pro
    530                 535                 540

Lys Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly Ala Lys Val Pro Pro
545                 550                 555                 560

Asp Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly Gln Lys Asp
                565                 570
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<210> 7
<211> 1972
<212> DNA
<213> Homo sapiens

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gaacagcatg tccggattcg agtcatcaag aagaaaaagg tcattatgaa gaagcggaag 240
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cccacccgct tctcgggtgt tatcacacag ggcagagatc ctggcctgcc cagtctcaga 600
ccccaatgac ctattccttg aggcccctgc gtcgggatcc tctgaccctc tagactttca 660
gcatcacaat tacaaggcca tgaggaagct gatgaagcag gtacaagagc aatgccccaa 720
catcacccgc atctacagca ttgggaagag ctaccagggc ctgaagctgt atgtgatgga 780
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ccatgagttc ctgcgaggga acccacgggt gacccggctg ctctctgaga tgcgcattca 960
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18

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cagctaccta cacaccaact gctttgaggt cactgtggag ctgtcctgtg acaagttccc 1560
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cgtgctcacc aagactccca aacagaggct gcgcgagctg ctggcagctg gggccaaggt 1920
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<210> 8
<211> 202
<212> PRT
<213> Homo sapiens

<400> 8
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly
  1   5   10   15

Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
             20   25   30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
          35   40   45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
       50   55   60

Arg Ile Arg Val Ile Lys Lys Lys Val Ile Met Lys Lys Arg Lys
 65   70   75   80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
                85   90   95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
             100   105   110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
          115   120   125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
    130   135   140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
145   150   155   160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
                165   170   175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
                180   185   190

Asp Pro Gly Leu Pro Ser Leu Arg Pro Gln
                195   200

<210> 9
<211> 719
<212> PRT
<213> Mus musculus

<400> 9
Met Gln Ala Gly Ala Asn Glu Asp Asp Tyr Tyr Asp Gly Ala Trp Cys
  1   5   10   15

Ala Glu Asp Glu Ser Gln Thr Gln Trp Ile Glu Val Asp Thr Arg Arg
                20   25   30

Thr Thr Arg Phe Thr Gly Val Ile Thr Gln Gly Arg Asp Ser Ser Ile
            35   40   45

His Asp Asp Phe Val Thr Thr Phe Phe Val Gly Phe Ser Asn Asp Ser
    50   55   60

Gln Thr Trp Val Met Tyr Thr Asn Gly Tyr Glu Glu Met Thr Phe Tyr
  65   70   75   80

Gly Asn Val Asp Lys Asp Thr Pro Val Leu Ser Glu Leu Pro Glu Pro
                85   90   95

Val Val Ala Arg Phe Ile Arg Ile Tyr Pro Leu Thr Trp Asn Gly Ser
            100   105   110

Leu Cys Met Arg Leu Glu Val Leu Gly Cys Pro Val Thr Pro Val Tyr
            115   120   125

Ser Tyr Tyr Ala Gln Asn Glu Val Val Thr Thr Asp Ser Leu Asp Phe

Arg His His Ser Tyr Lys Asp Met Arg Gln Leu Met Lys Ala Val Asn
145   150   155   160

Glu Glu Cys Pro Thr Ile Thr Arg Thr Tyr Ser Leu Gly Lys Ser Ser
               165   170   175

Arg Gly Leu Lys Ile Tyr Ala Met Glu Ile Ser Asp Asn Pro Gly Asp
               180   185   190

His Glu Leu Gly Glu Pro Glu Phe Arg Tyr Thr Ala Gly Ile His Gly
               195   200   205

Asn Glu Val Leu Gly Arg Glu Leu Leu Leu Leu Leu Met Gln Tyr Leu
       210   215   220

Cys Gln Glu Tyr Arg Asp Gly Asn Pro Arg Val Arg Asn Leu Val Gln
225   230   235   240

Asp Thr Arg Ile His Leu Val Pro Ser Leu Asn Pro Asp Gly Tyr Glu
               245   250   255

Val Ala Ala Gln Met Gly Ser Glu Phe Gly Asn Trp Ala Leu Gly Leu
               260   265   270

Trp Thr Glu Glu Gly Phe Asp Ile Phe Glu Asp Phe Pro Asp Leu Asn
               275   280   285

Ser Val Leu Trp Ala Ala Glu Glu Lys Lys Trp Val Pro Tyr Arg Val
       290   295   300

Pro Asn Asn Asn Leu Pro Ile Pro Glu Arg Tyr Leu Ser Pro Asp Ala
305   310   315   320

Thr Val Ser Thr Glu Val Arg Ala Ile Ile Ser Trp Met Glu Lys Asn
               325   330   335

Pro Phe Val Leu Gly Ala Asn Leu Asn Gly Gly Glu Arg Leu Val Ser
               340   345   350

Tyr Pro Tyr Asp Met Ala Arg Thr Pro Ser Gln Glu Gln Leu Leu Ala
       355   360   365

Glu Ala Leu Ala Ala Ala Arg Gly Glu Asp Asp Asp Gly Val Ser Glu
       370   375   380

Ala Gln Glu Thr Pro Asp His Ala Ile Phe Arg Trp Leu Ala Ile Ser

Phe Ala Ser Ala His Leu Thr Met Thr Glu Pro Tyr Arg Gly Gly Cys
            405   410   415

Gln Ala Gln Asp Tyr Thr Ser Gly Met Gly Ile Val Asn Gly Ala Lys
            420   425   430

Trp Asn Pro Arg Ser Gly Thr Phe Asn Asp Phe Ser Tyr Leu His Thr
            435   440   445

Asn Cys Leu Glu Leu Ser Val Tyr Leu Gly Cys Asp Lys Phe Pro His
            450   455   460

Glu Ser Glu Leu Pro Arg Glu Trp Glu Asn Asn Lys Glu Ala Leu Leu
465   470   475   480

Thr Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Val Val Thr Asp
            485   490   495

Glu Gln Gly Ile Pro Ile Ala Asn Ala Thr Ile Ser Val Ser Gly Ile
            500   505   510

Asn His Gly Val Lys Thr Ala Ser Gly Gly Asp Tyr Trp Arg Ile Leu
            515   520   525

Asn Pro Gly Glu Tyr Arg Val Thr Ala His Ala Glu Gly Tyr Thr Ser
            530   535   540

Ser Ala Lys Ile Cys Asn Val Asp Tyr Asp Ile Gly Ala Thr Gln Cys
545   550   555   560

Asn Phe Ile Leu Ala Arg Ser Asn Trp Lys Arg Ile Arg Glu Ile Leu
            565   570   575

Ala Met Asn Gly Asn Arg Pro Ile Leu Arg Val Asp Pro Ser Arg Pro
            580   585   590

Met Thr Pro Gln Gln Arg Arg Met Gln Gln Arg Arg Leu Gln Tyr Arg
            595   600   605

Leu Arg Met Arg Glu Gln Met Arg Leu Arg Arg Leu Asn Ser Thr Ala
            610   615   620

Gly Pro Ala Thr Ser Pro Thr Pro Ala Leu Met Pro Pro Pro Ser Pro
625   630   635   640

Thr Pro Ala Ile Thr Leu Arg Pro Trp Glu Val Leu Pro Thr Thr Thr

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                   645                      650                      655

Ala Gly Trp Glu Glu Ser Glu Thr Glu Thr Tyr Thr Glu Val Val Thr
             660                 665                 670

Glu Phe Glu Thr Glu Tyr Gly Thr Asp Leu Glu Val Glu Glu Ile Glu
         675                 680                 685

Glu Glu Glu Glu Glu Glu Glu Glu Glu Met Asp Thr Gly Leu Thr Phe
         690                 695                 700

Pro Leu Thr Thr Val Glu Thr Tyr Thr Val Asn Phe Gly Asp Phe
705                 710                 715
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<210> 10
<211> 1128
<212> PRT
<213> Mus musculus

<400> 10

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Met Ala Pro Val Arg Thr Ala Ser Leu Leu Cys Gly Leu Leu Ala Leu
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Leu Thr Leu Cys Pro Glu Gly Asn Pro Gln Thr Val Leu Thr Asp Asp
             20                 25                  30

Glu Ile Glu Glu Phe Leu Glu Gly Phe Leu Ser Glu Leu Glu Thr Gln
         35                  40                  45

Ser Pro Pro Arg Glu Asp Asp Val Glu Val Gln Pro Leu Pro Glu Pro
     50                  55                  60

Thr Gln Arg Pro Arg Lys Ser Lys Ala Gly Gly Lys Gln Arg Ala Asp
 65                  70                  75                  80

Val Glu Val Pro Pro Glu Lys Asn Lys Asp Lys Glu Lys Lys Gly Lys
                 85                  90                  95

Lys Asp Lys Gly Pro Lys Ala Thr Lys Pro Leu Glu Gly Ser Thr Arg
             100                 105                 110

Pro Thr Lys Lys Pro Lys Glu Lys Pro Pro Lys Ala Thr Lys Lys Pro
             115                 120                 125

Lys Glu Lys Pro Pro Lys Ala Thr Lys Lys Pro Lys Glu Lys Pro Pro
         130                 135                 140
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Lys Ala Thr Lys Lys Pro Lys Glu Lys Pro Pro Lys Ala Thr Lys Arg
145   150   155   160

Pro Ser Ala Gly Lys Lys Phe Ser Thr Val Ala Pro Leu Glu Thr Leu
                165   170   175

Asp Arg Leu Leu Pro Ser Pro Ser Asn Pro Ser Ala Gln Glu Leu Pro
                180   185   190

Gln Lys Arg Asp Thr Pro Phe Pro Asn Ala Trp Gln Gly Gln Gly Glu
        195   200   205

Glu Thr Gln Val Glu Ala Lys Gln Pro Arg Pro Glu Pro Glu Glu Glu
    210   215   220

Thr Glu Met Pro Thr Leu Asp Tyr Asn Asp Gln Ile Glu Lys Glu Asp
225   230   235   240

Tyr Glu Asp Phe Glu Tyr Ile Arg Arg Gln Lys Gln Pro Arg Pro Thr
                245   250   255

Pro Ser Arg Arg Arg Leu Trp Pro Glu Arg Pro Glu Glu Lys Thr Glu
        260   265   270

Glu Pro Glu Glu Arg Lys Glu Val Glu Pro Pro Leu Lys Pro Leu Leu
        275   280   285

Pro Pro Asp Tyr Gly Asp Ser Tyr Val Ile Pro Asn Tyr Asp Asp Leu
    290   295   300

Asp Tyr Tyr Phe Pro His Pro Pro Pro Gln Lys Pro Asp Val Gly Gln
305   310   315   320

Glu Val Asp Glu Glu Lys Glu Glu Met Lys Lys Pro Lys Lys Glu Gly
                325   330   335

Ser Ser Pro Lys Glu Asp Thr Glu Asp Lys Trp Thr Val Glu Lys Asn
                340   345   350

Lys Asp His Lys Gly Pro Arg Lys Gly Glu Glu Leu Glu Glu Glu Trp
        355   360   365

Ala Pro Val Glu Lys Ile Lys Cys Pro Pro Ile Gly Met Glu Ser His
    370   375   380

Arg Ile Glu Asp Asn Gln Ile Arg Ala Ser Ser Met Leu Arg His Gly
385   390   395   400

24

```
Leu Gly Ala Gln Arg Gly Arg Leu Asn Met Gln Ala Gly Ala Asn Glu
            405                 410             415

Asp Asp Tyr Tyr Asp Gly Ala Trp Cys Ala Glu Asp Glu Ser Gln Thr
            420                 425             430

Gln Trp Ile Glu Val Asp Thr Arg Arg Thr Thr Arg Phe Thr Gly Val
            435                 440             445

Ile Thr Gln Gly Arg Asp Ser Ser Ile His Asp Asp Phe Val Thr Thr
            450                 455             460

Phe Phe Val Gly Phe Ser Asn Asp Ser Gln Thr Trp Val Met Tyr Thr
465                 470             475             480

Asn Gly Tyr Glu Glu Met Thr Phe Tyr Gly Asn Val Asp Lys Asp Thr
            485                 490             495

Pro Val Leu Ser Glu Leu Pro Glu Pro Val Val Ala Arg Phe Ile Arg
            500                 505             510

Ile Tyr Pro Leu Thr Trp Asn Gly Ser Leu Cys Met Arg Leu Glu Val
            515                 520             525

Leu Gly Cys Pro Val Thr Pro Val Tyr Ser Tyr Tyr Ala Gln Asn Glu
            530                 535             540

Val Val Thr Thr Asp Ser Leu Asp Phe Arg His His Ser Tyr Lys Asp
545                 550             555             560

Met Arg Gln Leu Met Lys Ala Val Asn Glu Glu Cys Pro Thr Ile Thr
            565                 570             575

Arg Thr Tyr Ser Leu Gly Lys Ser Ser Arg Gly Leu Lys Ile Tyr Ala
            580                 585             590

Met Glu Ile Ser Asp Asn Pro Gly Asp His Glu Leu Gly Glu Pro Glu
            595                 600             605

Phe Arg Tyr Thr Ala Gly Ile His Gly Asn Glu Val Leu Gly Arg Glu
            610                 615             620

Leu Leu Leu Leu Leu Met Gln Tyr Leu Cys Gln Glu Tyr Arg Asp Gly
625                 630             635             640

Asn Pro Arg Val Arg Asn Leu Val Gln Asp Thr Arg Ile His Leu Val
            645                 650             655
```

Pro Ser Leu Asn Pro Asp Gly Tyr Glu Val Ala Ala Gln Met Gly Ser
                660   665   670

Glu Phe Gly Asn Trp Ala Leu Gly Leu Trp Thr Glu Glu Gly Phe Asp
                675   680   685

Ile Phe Glu Asp Phe Pro Asp Leu Asn Ser Val Leu Trp Ala Ala Glu
        690   695   700

Glu Lys Lys Trp Val Pro Tyr Arg Val Pro Asn Asn Asn Leu Pro Ile
705   710   715   720

Pro Glu Arg Tyr Leu Ser Pro Asp Ala Thr Val Ser Thr Glu Val Arg
                725   730   735

Ala Ile Ile Ser Trp Met Glu Lys Asn Pro Phe Val Leu Gly Ala Asn
                740   745   750

Leu Asn Gly Gly Glu Arg Leu Val Ser Tyr Pro Tyr Asp Met Ala Arg
                755   760   765

Thr Pro Ser Gln Glu Gln Leu Leu Ala Glu Ala Leu Ala Ala Ala Arg
        770   775   780

Gly Glu Asp Asp Asp Gly Val Ser Glu Ala Gln Glu Thr Pro Asp His
785   790   795   800

Ala Ile Phe Arg Trp Leu Ala Ile Ser Phe Ala Ser Ala His Leu Thr
                805   810   815

Met Thr Glu Pro Tyr Arg Gly Gly Cys Gln Ala Gln Asp Tyr Thr Ser
                820   825   830

Gly Met Gly Ile Val Asn Gly Ala Lys Trp Asn Pro Arg Ser Gly Thr
                835   840   845

Phe Asn Asp Phe Ser Tyr Leu His Thr Asn Cys Leu Glu Leu Ser Val
        850   855   860

Tyr Leu Gly Cys Asp Lys Phe Pro His Glu Ser Glu Leu Pro Arg Glu
865   870   875   880

Trp Glu Asn Asn Lys Glu Ala Leu Leu Thr Phe Met Glu Gln Val His
                885   890   895

Arg Gly Ile Lys Gly Val Val Thr Asp Glu Gln Gly Ile Pro Ile Ala
                900   905   910

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Asn Ala Thr Ile Ser Val Ser Gly Ile Asn His Gly Val Lys Thr Ala
        915   920   925

Ser Gly Gly Asp Tyr Trp Arg Ile Leu Asn Pro Gly Glu Tyr Arg Val
        930   935   940

Thr Ala His Ala Glu Gly Tyr Thr Ser Ser Ala Lys Ile Cys Asn Val
945   950   955   960

Asp Tyr Asp Ile Gly Ala Thr Gln Cys Asn Phe Ile Leu Ala Arg Ser
                965   970   975

Asn Trp Lys Arg Ile Arg Glu Ile Leu Ala Met Asn Gly Asn Arg Pro
                980   985   990

Ile Leu Gly Val Asp Pro Ser Arg Pro Met Thr Pro Gln Gln Arg Arg
                995   1000   1005

Met Gln Gln Arg Arg Leu Gln Tyr Arg Leu Arg Met Arg Glu Gln Met
        1010   1015   1020

Arg Leu Arg Arg Leu Asn Ser Thr Ala Gly Pro Ala Thr Ser Pro Thr
1025   1030   1035   1040

Pro Ala Leu Met Pro Pro Pro Ser Pro Thr Pro Ala Ile Thr Leu Arg
                1045   1050   1055

Pro Trp Glu Val Leu Pro Thr Thr Thr Ala Gly Trp Glu Glu Ser Glu
                1060   1065   1070

Thr Glu Thr Tyr Thr Glu Val Val Thr Glu Phe Glu Thr Glu Tyr Gly
                1075   1080   1085

Thr Asp Leu Glu Val Glu Glu Ile Glu Glu Glu Glu Glu Glu Glu Glu
        1090   1095   1100

Glu Glu Met Asp Thr Gly Leu Thr Phe Pro Leu Thr Thr Val Glu Thr
1105   1110   1115   1120

Tyr Thr Val Asn Phe Gly Asp Phe
                1125

<210> 11
<211> 845
<212> PRT
<213> Homo sapiens

27

<400> 11

```
Met Asp Tyr Tyr Phe Gly Pro Pro Pro Gln Lys Pro Asp Ala Glu
1                   5                   10                  15

Arg Gln Thr Asp Glu Glu Lys Glu Glu Leu Lys Lys Pro Lys Lys Glu
            20                  25                  30

Asp Ser Ser Pro Lys Glu Glu Thr Asp Lys Trp Ala Val Glu Lys Gly
            35                  40                  45

Lys Asp His Lys Glu Pro Arg Lys Gly Glu Glu Leu Glu Glu Glu Trp
        50                  55                  60

Thr Pro Thr Glu Lys Val Lys Cys Pro Pro Ile Gly Met Glu Ser His
65                  70                  75                  80

Arg Ile Glu Asp Asn Gln Ile Arg Ala Ser Ser Met Leu Arg His Gly
                85                  90                  95

Leu Gly Ala Gln Arg Gly Arg Leu Asn Met Gln Thr Gly Ala Thr Glu
            100                 105                 110

Asp Asp Tyr Tyr Asp Gly Ala Trp Cys Ala Glu Asp Asp Ala Arg Thr
            115                 120                 125

Gln Trp Ile Glu Val Asp Thr Arg Arg Thr Thr Arg Phe Thr Gly Val
        130                 135                 140

Ile Thr Gln Gly Arg Asp Ser Ser Ile His Asp Asp Phe Val Thr Thr
145                 150                 155                 160

Phe Phe Val Gly Phe Ser Asn Asp Ser Gln Thr Trp Val Met Tyr Thr
                165                 170                 175

Asn Gly Tyr Glu Glu Met Thr Phe His Gly Asn Val Asp Lys Asp Thr
            180                 185                 190

Pro Val Leu Ser Glu Leu Pro Glu Pro Val Val Ala Arg Phe Ile Arg
            195                 200                 205

Ile Tyr Pro Leu Thr Trp Asn Gly Ser Leu Cys Met Arg Leu Glu Val
        210                 215                 220

Leu Gly Cys Ser Val Ala Pro Val Tyr Ser Tyr Tyr Ala Gln Asn Glu
225                 230                 235                 240

Val Val Ala Thr Asp Asp Leu Asp Phe Arg His His Ser Tyr Lys Asp
            245                 250                 255
```

28

Met Arg Gln Leu Met Lys Val Val Asn Glu Glu Cys Pro Thr Ile Thr
            260   265   270

Arg Thr Tyr Ser Leu Gly Lys Ser Ser Arg Gly Leu Lys Ile Tyr Ala
            275   280   285

Met Glu Ile Ser Asp Asn Pro Gly Glu His Glu Leu Gly Glu Pro Glu
    290   295   300

Phe Arg Tyr Thr Ala Gly Ile His Gly Asn Glu Val Leu Gly Arg Glu
305   310   315   320

Leu Leu Leu Leu Leu Met Gln Tyr Leu Cys Arg Glu Tyr Arg Asp Gly
                325   330   335

Asn Pro Arg Val Arg Ser Leu Val Gln Asp Thr Arg Ile His Leu Val
            340   345   350

Pro Ser Leu Asn Pro Asp Gly Tyr Glu Val Ala Ala Gln Met Gly Ser
            355   360   365

Glu Phe Gly Asn Trp Ala Leu Gly Leu Trp Thr Glu Glu Gly Phe Asp
            370   375   380

Ile Phe Glu Asp Phe Pro Asp Leu Asn Ser Val Leu Trp Gly Ala Glu
385   390   395   400

Glu Arg Lys Trp Val Pro Tyr Arg Val Pro Asn Asn Asn Leu Pro Ile
            405   410   415

Pro Glu Arg Tyr Leu Ser Pro Asp Ala Thr Val Ser Thr Glu Val Arg
            420   425   430

Ala Ile Ile Ala Trp Met Glu Lys Asn Pro Phe Val Leu Gly Ala Asn
            435   440   445

Leu Asn Gly Gly Glu Arg Leu Val Ser Tyr Pro Tyr Asp Met Ala Arg
    450   455   460

Thr Pro Thr Gln Glu Gln Leu Leu Ala Ala Ala Met Ala Ala Ala Arg
465   470   475   480

Gly Glu Asp Glu Asp Glu Val Ser Glu Ala Gln Glu Thr Pro Asp His
            485   490   495

Ala Ile Phe Arg Trp Leu Ala Ile Ser Phe Ala Ser Ala His Leu Thr
            500   505   510

29

```
Leu Thr Glu Pro Tyr Arg Gly Gly Cys Gln Ala Gln Asp Tyr Thr Gly
        515             520             525

Gly Met Gly Ile Val Asn Gly Ala Lys Trp Asn Pro Arg Thr Gly Thr
        530             535             540

Ile Asn Asp Phe Ser Tyr Leu His Thr Asn Cys Leu Glu Leu Ser Phe
545             550             555             560

Tyr Leu Gly Cys Asp Lys Phe Pro His Glu Ser Glu Leu Pro Arg Glu
            565             570             575

Trp Glu Asn Asn Lys Glu Ala Leu Leu Thr Phe Met Glu Gln Val His
            580             585             590

Arg Gly Ile Lys Gly Val Val Thr Asp Glu Gln Gly Ile Pro Ile Ala
        595             600             605

Asn Ala Thr Ile Ser Val Ser Gly Ile Asn His Gly Val Lys Thr Ala
        610             615             620

Ser Gly Gly Asp Tyr Trp Arg Ile Leu Asn Pro Gly Glu Tyr Arg Val
625             630             635             640

Thr Ala His Ala Glu Gly Tyr Thr Pro Ser Ala Lys Thr Cys Asn Val
            645             650             655

Asp Tyr Asp Ile Gly Ala Thr Gln Cys Asn Phe Ile Leu Ala Arg Ser
            660             665             670

Asn Trp Lys Arg Ile Arg Glu Ile Met Ala Met Asn Gly Asn Arg Pro
        675             680             685

Ile Pro His Ile Asp Pro Ser Arg Pro Met Thr Pro Gln Gln Arg Arg
        690             695             700

Leu Gln Gln Arg Arg Leu Gln His Arg Leu Arg Leu Arg Ala Gln Met
705             710             715             720

Arg Leu Arg Arg Leu Asn Ala Thr Thr Thr Leu Gly Pro His Thr Val
            725             730             735

Pro Pro Thr Leu Pro Pro Ala Pro Ala Thr Thr Leu Ser Thr Thr Ile
            740             745             750

Glu Pro Trp Gly Leu Ile Pro Pro Thr Thr Ala Gly Trp Glu Glu Ser
            755             760             765
```

```
Glu Thr Glu Thr Tyr Thr Glu Val Val Thr Glu Phe Gly Thr Glu Val
    770             775                 780

Glu Pro Glu Phe Gly Thr Lys Val Glu Pro Glu Phe Glu Thr Gln Leu
785             790                 795                 800

Glu Pro Glu Phe Glu Thr Gln Leu Glu Pro Glu Phe Glu Glu Glu Glu
            805                 810                 815

Glu Glu Glu Lys Glu Glu Glu Ile Ala Thr Gly Gln Ala Phe Pro Phe
            820                 825                 830

Thr Thr Val Glu Thr Tyr Thr Val Asn Phe Gly Asp Phe
        835                 840                 845


<210> 12
<211> 764
<212> PRT
<213> Mus musculus

<400> 12
Met Ala Arg Leu Gly Thr Ala Cys Pro Ala Leu Ala Leu Ala Leu Ala
 1               5                  10                  15

Leu Val Ala Val Ala Leu Ala Gly Val Arg Ala Gln Gly Ala Ala Phe
            20                  25                  30

Glu Glu Pro Asp Tyr Tyr Ser Gln Glu Leu Trp Arg Arg Gly Arg Tyr
            35                  40                  45

Tyr Gly His Pro Glu Pro Glu Pro Glu Pro Glu Leu Phe Ser Pro Ser
    50                  55                  60

Met His Glu Asp Leu Arg Val Glu Glu Gln Glu Gln Gln Arg Pro His
65                  70                  75                  80

Gln Gln Gly His Arg Thr Pro Lys Lys Ala Ile Lys Pro Lys Lys Ala
                85                  90                  95

Pro Lys Arg Glu Lys Leu Val Ala Glu Thr Pro Pro Pro Gly Lys Asn
            100                 105                 110

Ser Asn Arg Lys Gly Arg Arg Ser Lys Asn Leu Glu Lys Ala Ala Ser
            115                 120                 125

Asp Asp His Gly Val Pro Val Ala His Glu Asp Val Arg Glu Ser Cys
```

31

```
           130                    135                    140

Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln Leu His
145                    150                    155                    160

Ala Ser Thr Ser Lys Arg Tyr Gly Leu Gly Ala His Arg Gly Arg Leu
                165                    170                    175

Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr Asp Gly Ala Trp
                180                    185                    190

Cys Ala Gly Arg Asn Asp Leu His Gln Trp Ile Glu Val Asp Ala Arg
                195                    200                    205

Arg Leu Thr Lys Phe Thr Gly Val Ile Thr Gln Gly Arg Asn Ser Leu
        210                    215                    220

Trp Leu Ser Asp Trp Val Thr Ser Tyr Lys Val Met Val Ser Asn Asp
225                    230                    235                    240

Ser His Thr Trp Val Thr Val Lys Asn Gly Ser Gly Asp Met Ile Phe
                245                    250                    255

Glu Gly Asn Ser Glu Lys Glu Ile Pro Val Leu Asn Glu Leu Pro Val
                260                    265                    270

Pro Met Val Ala Arg Val Ile Arg Ile Asn Pro Gln Ser Trp Phe Asp
                275                    280                    285

Asn Gly Ser Ile Cys Met Arg Met Glu Ile Leu Gly Cys Pro Leu Pro
        290                    295                    300

Asp Pro Asn Asn Tyr Tyr His Arg Arg Asn Glu Met Thr Thr Thr Asp
305                    310                    315                    320

Asp Leu Asp Phe Lys His His Asn Tyr Lys Glu Met Arg Gln Leu Met
                325                    330                    335

Lys Val Val Asn Glu Met Cys Pro Asn Ile Thr Arg Ile Tyr Asn Ile
                340                    345                    350

Gly Lys Ser His Gln Gly Leu Lys Leu Tyr Ala Val Glu Ile Ser Asp
                355                    360                    365

His Pro Gly Glu His Glu Val Gly Glu Pro Glu Phe His Tyr Ile Ala
        370                    375                    380

Gly Ala His Gly Asn Glu Val Leu Gly Arg Glu Leu Leu Leu Leu Leu
```

```
        385                     390                     395                     400

        Leu His Phe Leu Cys Gln Glu Tyr Ser Ala Gln Asn Ala Arg Ile Val
                    405                     410                     415

        Arg Leu Val Glu Glu Thr Arg Ile His Ile Leu Pro Ser Leu Asn Pro
                    420                     425                     430

        Asp Val Tyr Glu Lys Ala Tyr Glu Gly Gly Ser Glu Leu Gly Gly Trp
                    435                     440                     445

        Ser Leu Gly Arg Trp Thr His Asp Gly Ile Asp Ile Asn Asn Asn Phe
                    450                     455                     460

        Pro Asp Leu Asn Ser Leu Leu Trp Glu Ala Glu Asp Gln Gln Asn Ala
        465                     470                     475                     480

        Pro Arg Lys Val Pro Asn His Tyr Ile Ala Ile Pro Glu Trp Phe Leu
                    485                     490                     495

        Ser Glu Asn Ala Thr Val Ala Thr Glu Thr Arg Ala Val Ile Ala Trp
                    500                     505                     510

        Met Glu Lys Ile Pro Phe Val Leu Gly Gly Asn Leu Gln Gly Gly Glu
                    515                     520                     525

        Leu Val Val Ala Tyr Pro Tyr Asp Met Val Arg Ser Leu Trp Lys Thr
                    530                     535                     540

        Gln Glu His Thr Pro Thr Pro Asp Asp His Val Phe Arg Trp Leu Ala
        545                     550                     555                     560

        Tyr Ser Tyr Ala Ser Thr His Arg Leu Met Thr Asp Ala Arg Arg Arg
                    565                     570                     575

        Val Cys His Thr Glu Asp Phe Gln Lys Glu Glu Gly Thr Val Asn Gly
                    580                     585                     590

        Ala Ser Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser Tyr Leu
                    595                     600                     605

        Gly Thr Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp Lys Tyr
                    610                     615                     620

        Pro His Glu Ser Glu Leu Pro Glu Glu Trp Glu Asn Asn Arg Glu Ser
        625                     630                     635                     640

        Leu Ile Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Ile Val
```

33

```
                645                      650                      655

Arg Asp Leu Gln Gly Lys Gly Ile Ser Asn Ala Val Ile Ser Val Glu
            660                 665                 670

Gly Val Asn His Asp Ile Arg Thr Ala Ser Asp Gly Asp Tyr Trp Arg
            675                 680                 685

Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu Gly Phe
        690                 695                 700

Ile Thr Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly Ala Thr
705                 710                 715                 720

Arg Cys Asp Phe Thr Leu Thr Lys Thr Asn Leu Ala Arg Ile Arg Glu
                725                 730                 735

Ile Met Glu Thr Phe Gly Lys Gln Pro Val Ser Leu Pro Ser Arg Arg
            740                 745                 750

Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly
        755                 760


<210> 13
<211> 722
<212> PRT
<213> Mus musculus

<400> 13
Met Trp Gly Leu Leu Leu Ala Val Thr Ala Phe Ala Pro Ser Val Gly
    1               5                   10                  15

Leu Gly Leu Gly Ala Pro Ser Ala Ser Val Pro Gly Leu Ala Pro Gly
            20                  25                  30

Ser Thr Leu Ala Pro His Ser Ser Val Ala Gln Pro Ser Thr Lys Ala
            35                  40                  45

Asn Glu Thr Ser Glu Arg His Val Arg Leu Arg Val Ile Lys Lys Lys
        50                  55                  60

Lys Ile Val Val Lys Lys Arg Lys Lys Leu Arg His Pro Gly Pro Leu
    65                  70                  75                  80

Gly Thr Ala Arg Pro Val Val Pro Thr His Pro Ala Lys Thr Leu Thr
                85                  90                  95
```

```
Leu Pro Glu Lys Gln Glu Pro Gly Cys Pro Pro Leu Gly Leu Glu Ser
             100                 105             110

Leu Arg Val Ser Asp Ser Gln Leu Glu Ala Ser Ser Ser Gln Ser Phe
             115                 120             125

Gly Leu Gly Ala His Arg Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu
         130                 135             140

Asp Gly Asp Leu Tyr Asp Gly Ala Trp Cys Ala Glu Gln Gln Asp Thr
145                 150             155                 160

Glu Pro Trp Leu Gln Val Asp Ala Lys Asn Pro Val Arg Phe Ala Gly
             165                 170             175

Ile Val Thr Gln Gly Arg Asn Ser Val Trp Arg Tyr Asp Trp Val Thr
             180                 185             190

Ser Phe Lys Val Gln Phe Ser Asn Asp Ser Gln Thr Trp Trp Lys Ser
             195                 200             205

Arg Asn Ser Thr Gly Met Asp Ile Val Phe Pro Ala Asn Ser Asp Ala
         210                 215             220

Glu Thr Pro Val Leu Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe
225                 230             235                 240

Ile Arg Leu Leu Pro Gln Thr Trp Phe Gln Gly Gly Val Pro Cys Leu
             245                 250             255

Arg Ala Glu Ile Leu Ala Cys Pro Val Ser Asp Pro Asn Asp Leu Phe
             260                 265             270

Pro Glu Ala His Thr Leu Gly Ser Ser Asn Ser Leu Asp Phe Arg His
             275                 280             285

His Asn Tyr Lys Ala Met Arg Lys Leu Met Lys Gln Val Asn Glu Gln
         290                 295             300

Cys Pro Asn Ile Thr Arg Ile Tyr Ser Ile Gly Lys Ser His Gln Gly
305                 310             315                 320

Leu Lys Leu Tyr Val Met Glu Met Ser Asp His Pro Gly Glu His Glu
             325                 330             335

Leu Gly Glu Pro Glu Val Arg Tyr Val Ala Gly Met His Gly Asn Glu
             340                 345             350
```

                                  35

Ala Leu Gly Arg Glu Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His
        355   360   365

Glu Phe Leu Arg Gly Asp Pro Arg Val Thr Arg Leu Leu Thr Glu Thr
        370   375   380

Arg Ile His Leu Leu Pro Ser Met Asn Pro Asp Gly Tyr Glu Thr Ala
385   390   395   400

Tyr His Arg Gly Ser Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Thr
                405   410   415

His Gln Gly Ile Asp Leu Asn His Asn Phe Ala Asp Leu Asn Thr Gln
                420   425   430

Leu Trp Tyr Ala Glu Asp Asp Gly Leu Val Pro Asp Thr Val Pro Asn
        435   440   445

His His Leu Pro Leu Pro Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val
        450   455   460

Ala Pro Glu Thr Trp Ala Val Ile Lys Trp Met Lys Arg Ile Pro Phe
465   470   475   480

Val Leu Ser Ala Asn Leu His Gly Gly Glu Leu Val Val Ser Tyr Pro
                485   490   495

Phe Asp Met Thr Arg Thr Pro Trp Ala Ala Arg Glu Leu Thr Pro Thr
                500   505   510

Pro Asp Asp Ala Val Phe Arg Trp Leu Ser Thr Val Tyr Ala Gly Thr
                515   520   525

Asn Arg Ala Met Gln Asp Thr Asp Arg Arg Pro Cys His Ser Gln Asp
        530   535   540

Phe Ser Leu His Gly Asn Val Ile Asn Gly Ala Asp Trp His Thr Val
545   550   555   560

Pro Gly Ser Met Asn Asp Phe Ser Tyr Leu His Thr Asn Cys Phe Glu
                565   570   575

Val Thr Val Glu Leu Ser Cys Asp Lys Phe Pro His Glu Lys Glu Leu
                580   585   590

Pro Gln Glu Trp Glu Asn Asn Lys Asp Ala Leu Leu Thr Tyr Leu Glu
        595   600   605

```
Gln Val Arg Met Gly Ile Thr Gly Val Val Arg Asp Lys Asp Thr Glu
    610               615               620

Leu Gly Ile Ala Asp Ala Val Ile Ala Val Glu Gly Ile Asn His Asp
625               630               635               640

Val Thr Thr Ala Trp Gly Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly
                645               650               655

Asp Tyr Val Val Thr Ala Ser Ala Glu Gly Tyr His Thr Val Arg Gln
              660               665               670

His Cys Gln Val Thr Phe Glu Glu Gly Pro Val Pro Cys Asn Phe Leu
          675               680               685

Leu Thr Lys Thr Pro Lys Glu Arg Leu Arg Glu Leu Leu Ala Thr Arg
    690               695               700

Gly Lys Leu Pro Pro Asp Leu Arg Arg Lys Leu Glu Arg Leu Arg Gly
705               710               715               720

Gln Lys
```

<210> 14
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 14
ctcgtcagat ctgcgcccag gaactcggtg ctgggcctcg   40

<210> 15
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 15

ctcgtcctcg agatccttct gtccccttag ccgctcc   37

<210> 16
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 16
agccggcttg aggcatccag c   21

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 17
gctggatgcc tcaagccggc t   21

<210> 18
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 18
ccagaaactc cagtgctgaa c   21

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 19
gttcagcact ggagtttctg g   21

<210> 20
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 20
caagcctggg gagcatgagc tg   22

<210> 21
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 21
cagctcatgc tccccaggct tg   22

<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 22
caggacgatg ggaaggtgcc c   21

<210> 23
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 23
gggcaccttc ccatcgtcct g   21

<210> 24
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 24
agcatgaatg acttcagcta c   21

<210> 25
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 25
gtagctgaag tcattcatgc t   21

<210> 26
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 26
gagcttggga ttgctgacgc t   21

<210> 27
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
     Synthesized

<400> 27
gcgtcagcaa tcccaagctc   20

<210> 28
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
     Synthesized

<400> 28
ctcgtcctcg agggtaagcc tatccctaac   30

<210> 29
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
     Synthesized

<400> 29
ctcgtcgggc ccctgatcag cgggtttaaa c   31

<210> 30
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically

Synthesized

<400> 30
gtctggagtc cctgcgagtt t   21

<210> 31
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
     Synthesized

<400> 31
cggtgtggtc caagaccaa   19

<210> 32
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
     Synthesized

<400> 32
cttgaggcat ccagcagcca gtcc   24

<210> 33
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
     Synthesized

<400> 33
gagtccctgc gagtttcaga tag   23

<210> 34
<211> 20
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 34
gtcctcggtg tggtccaaga   20

<210> 35
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 35
tgaggcatcc agcagccagt ccttt   25

<210> 36
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 36
gtgctgctgc tctacaataa cca   23

<210> 37
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 37
gtttctgcag ctgggccat   19

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 38
tggaccggtg cgccttcgat   20

<210> 39
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 39
gacgtgggat gcacacagct c   21

<210> 40
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Chemically
      Synthesized

<400> 40
gctgcactgc tctggggtca   20

<210> 41
<211> 67
<212> PRT
<213> Homo sapiens

<400> 41
Pro Asp Met Val Thr Ala Ser Ala Glu Gly Tyr His Ser Val Thr Arg
 1   5   10   15

Asn Cys Arg Val Thr Phe Glu Glu Gly Pro Phe Pro Cys Asn Phe Val
            20   25   30

Leu Thr Lys Thr Pro Lys Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly
        35   40   45

Ala Lys Val Pro Pro Asp Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly
    50   55   60

Gln Lys Asp
 65

<210> 42
<211> 69
<212> PRT
<213> Homo sapiens

<400> 42
Pro Gly Asp Tyr Met Val Thr Ala Ser Ala Glu Gly Tyr His Ser Val
 1   5   10   15

Thr Arg Asn Cys Arg Val Thr Phe Glu Glu Gly Pro Phe Pro Cys Asn
            20   25   30

Phe Val Leu Thr Lys Thr Pro Lys Gln Arg Leu Arg Glu Leu Leu Ala
        35   40   45

Ala Gly Ala Lys Val Pro Pro Asp Leu Arg Arg Arg Leu Glu Arg Leu
    50   55   60

Arg Gly Gln Lys Asp
 65

<210> 43
<211> 192
<212> PRT
<213> Homo sapiens

<400> 43
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly
 1   5   10   15

Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
            20   25   30

45

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
        35   40   45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
        50   55   60

Arg Ile Arg Val Ile Lys Lys Lys Val Ile Met Lys Lys Arg Lys
65   70   75   80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
                85   90   95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
        100   105   110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
        115   120   125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
    130   135   140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
145   150   155   160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
                165   170   175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
                180   185   190

<210> 44
<211> 193
<212> PRT
<213> Homo sapiens

<400> 44
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly
  1   5   10   15

Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
                20   25   30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
        35   40   45

```
Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
        50                  55                  60

Arg Ile Arg Val Ile Lys Lys Lys Val Ile Met Lys Lys Arg Lys
    65                  70                  75                  80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
                85                  90                  95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
                100                 105                 110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
            115                 120                 125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
    130                 135                 140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
145                 150                 155                 160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
            165                 170                 175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
            180                 185                 190

Asn


<210> 45
<211> 510
<212> PRT
<213> Homo sapiens

<400> 45
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly
  1               5                   10                  15

Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
            20                  25                  30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
        35                  40                  45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
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         50                      55                      60

Arg Ile Arg Val Ile Lys Lys Lys Val Ile Met Lys Lys Arg Lys
 65                  70                  75                  80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
             85                  90                  95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
            100                 105                 110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
            115                 120                 125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
    130                 135                 140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
145                 150                 155                 160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
            165                 170                 175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
            180                 185                 190

Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe
            195                 200                 205

Ser Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly
    210                 215                 220

Met Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu
225                 230                 235                 240

Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro
            245                 250                 255

Gln Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu
            260                 265                 270

Ala Cys Pro Val Ser Asp Pro Asn Asp Leu Phe Leu Glu Ala Pro Ala
            275                 280                 285

Ser Gly Ser Ser Asp Pro Leu Asp Phe Gln His His Asn Tyr Lys Ala
    290                 295                 300

Met Arg Lys Leu Met Lys Gln Val Gln Glu Gln Cys Pro Asn Ile Thr

                          48
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Arg Ile Tyr Ser Ile Gly Lys Ser Tyr Gln Gly Leu Lys Leu Tyr Val
                325   330   335

Met Glu Met Ser Asp Lys Pro Gly Glu His Glu Leu Gly Glu Pro Glu
                340   345   350

Val Arg Tyr Val Ala Gly Met His Gly Asn Glu Ala Leu Gly Arg Glu
            355   360   365

Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His Glu Phe Leu Arg Gly
            370   375   380

Asn Pro Arg Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu
385   390   395   400

Pro Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser
                405   410   415

Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Asn Asn Gln Ser Ile Asp
                420   425   430

Leu Asn His Asn Phe Ala Asp Leu Asn Thr Pro Leu Trp Glu Ala Gln
            435   440   445

Asp Asp Gly Lys Val Pro His Ile Val Pro Asn His His Leu Pro Leu
            450   455   460

Pro Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val Ala Pro Glu Thr Arg
465   470   475   480

Ala Val Ile Lys Trp Met Lys Arg Ile Pro Phe Val Leu Ser Ala Asn
                485   490   495

Leu His Gly Gly Glu Leu Val Val Ser Tyr Pro Phe Asp Met
            500   505   510

<210> 46
<211> 68
<212> PRT
<213> Homo sapiens

<400> 46
Pro Phe Asp Met Val Thr Ala Ser Ala Glu Gly Tyr His Ser Val Thr
  1   5   10   15

Arg Asn Cys Arg Val Thr Phe Glu Glu Gly Pro Phe Pro Cys Asn Phe
                20   25   30

Val Leu Thr Lys Thr Pro Lys Gln Arg Leu Arg Glu Leu Leu Ala Ala
            35   40   45

Gly Ala Lys Val Pro Pro Asp Leu Arg Arg Arg Leu Glu Arg Leu Arg
        50   55   60

Gly Gln Lys Asp
 65

<210> 47
<211> 193
<212> PRT
<213> Homo sapiens

<400> 47
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly
 1   5   10   15

Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
                20   25   30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
            35   40   45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
        50   55   60

Arg Ile Arg Val Ile Lys Lys Lys Val Ile Met Lys Lys Arg Lys
 65   70   75   80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
                85   90   95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
            100   105   110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
        115   120   125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
    130   135   140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
145   150   155   160

```
Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
                165                 170                 175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
                180                 185                 190

Asp
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